

In re Patent Application of
John Alfred Wilkinson
Serial No. 10/019,353
Filed April 25, 2002

REMARKS

Applicant appreciates the Examiner's continuing careful review of the application. In that regard, Applicant is grateful that the Examiner has withdrawn the previous rejections under Section 112 and that the Examiner, recognizing that the cited reference by Burke et al. (Pub. No. US 2002/0151521) is non-analogous art, has also withdrawn that reference from consideration.

The two pending independent claims, claim 1 and claim 75, remain rejected under Section 103(a) as unpatentable and obvious in view of the cited references by Eine et al. (EP 049684), in view of Greff (US 6,123,953) or Sine et al. (US 6,183,766).

Applicant respectfully disagrees with the Examiner's findings and offers the following remarks in support of the patentability of independent claims 1 and 75.

The Claims Are Nonobvious Over The Combined References

Applicant has previously argued that a *prima facie* case of obviousness has not been established against claims 1 and 75. Applicant believes this has not changed and reasserts his previous arguments, emphasizing that the Examiner must show certain required elements in order to establish that the claims are *prima facie* obvious and shift the burden to Applicant to show criticality of results in order to justify the patentability of the claims. These required elements have not been established. The claims, therefore, should be patentable over the cited references.

In establishing a *prima facie* case of obviousness, three elements must be established (MPEP §2143):

- 1) that the prior art contains a suggestion or motivation to combine the cited references in such a way as to achieve the claimed invention;

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2) that one skilled in the art at the time the invention was made would have reasonably expected the claimed invention to work; and

3) that the combination must teach or suggest all the claim limitations, that is, that the combination produces the claimed invention.

As noted in the MPEP, numerous court decisions have validated the requirement for establishing these factors in order to show that the claims are *prima facie* obvious. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); In re O'Farrell, 853 F.2d 894, 903-904, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988); In re Dow Chem., 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988).

Applicant respectfully points out that the Examiner has previously recognized that the Eini reference does not mention or suggest a gel based on polymethacrylate, and does not teach the use of *Aloe vera* in such a gel. The Examiner has, however, previously asserted that the Eini reference teaches methyl lactate and triethanolamine as antipruritic agents (Office action mailed 3/5/2004, at page 2, next to last full paragraph; pointing to Eini at page 7, "results"). Other than the Examiner's assertion that triethanolamine and methyl lactate are antipruritic, Applicant can find no support for such utility in those compounds. In fact, enclosed please find photocopied pages from a chemical dictionary reference source for ethanolamine (including triethanolamine) and for lactic acid, which do not include such a property. See attached evidence submitted as Exhibit A.

Applicant has previously additionally pointed out that the Greff reference does not describe or suggest the use of an anti-pruritic agent or of *Aloe vera*. Accordingly, even if the teachings of Greff were combined with those of Eini, the combination would not produce the invention recited in claims 1 and 75, both of which recite an anti-pruritic agent.

Likewise, the Sine *et al.* reference does not teach or suggest the use of an anti-pruritic or of *Aloe vera*. Thus, if the Eini reference were to be combined with the teachings

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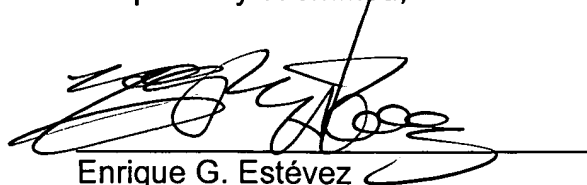
of Sine et al., the present invention would still not be produced. In fact, even if Eini, Greff and Sine et al. were all combined, the combination would not produce the present invention, as teachings or suggestions of the incorporation of an anti-pruritic are missing from the combination.

Accordingly, Applicant asserts that at least element 3 of the *prima facie* case of obviousness has not been established, as required in the MPEP. Therefore, the presumption remains that the invention recited in claims 1 and 75 is non-obvious and the rejection based on the combination of cited references is not proper.

In view of the amendments and the remarks presented herein, Applicant submits that claims 1 and 75 are patentable. In addition, their respective dependent claims, which recite yet further distinguishing features, are also patentable and require no further discussion.

If the further prosecution can be facilitated through a telephone conference between the Examiner and the undersigned, the Examiner is respectfully requested to telephone the undersigned.

Respectfully submitted,

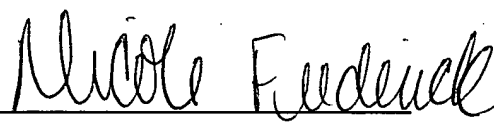


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The nomenclature in context by use nomenclature is used. Cross-references

The list of contributors they who originally Dictionary has been would appreciate

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d by (1) vapour phase
nation of ethanol over
phase oxidation of
and methanol as by-
idation of ethene over
palladium(II) chloride
ss*). Prepared on the
lation of ethanol with
and sulphuric acid.
d with many metallic
o ethanoic acid and
polymerization readily
hyde or metaldehyde:
ilis, a brown resin is
d by the interaction of
nal. Ethanal is used
chemical intermediate,
ioic acid, ethanoic an-
ccounting for the bulk
er industrial chemicals
2-ethylhexyl alcohol,
ral.

e ethylidene diacetate.

$\text{CH}_3\text{CO}\cdot\text{NH}_2$.

e needles which absorb
l. The crude substance
mice; m.p. 82°C , b.p.
ie dry distillation of
or by the action of
oate. Weakly basic.

ourless, odourless gas;
ixture with air. B.p.
natural gas. May be
of ethene or ethyne by
e in the presence of a
electrolysis of a solu-
ate. It has the general
ins. Used in low-tem-
ant.

alic acid.

nitrile.

Salts or esters of
(acid). The ethanoate
1 Ac.

id, glacial acetic acid,
is liquid with a pung-
o. 16.6°C , b.p. 119°C .
liquid-phase oxidation
oxygen or air under
ice of manganese(II)
venting the formation
other important route
ition of butane by air
C in the presence of a
ie ethanoic acid is
oxidation of ethanol.

Fermentation processes are used only for the
production of vinegar.

Ethanoic acid will attack most metals and
can form acidic, basic and normal salts. It can,
however, be handled in e.g. stainless steel
equipment. About half the ethanoic acid
produced is used as ethanoic anhydride for the
manufacture of cellulose ethanoate. Large
quantities are also used for the manufacture of
vinyl ethanoate and various solvents. Because
a number of manufacturing processes yield
large amounts of dilute acid its recovery is a
problem of considerable importance. Simple
rectification is expensive and hence various
other processes such as azeotropic and ex-
tractive distillation and liquid-liquid extrac-
tion are used. U.S. production 1986
1.33 megatonnes. Production of ethyl ester
(85%) 100 000 tonnes.

ethanoic anhydride, acetic anhydride,

$[\text{CH}_3\text{C}(\text{O})]_2\text{O}$. Colourless liquid with a pun-
gent odour; b.p. 139.5°C . Hydrolysed to etha-
noic acid by boiling water. Manufactured by
bubbling air through a mixture of ethanal and
ethanoic acid in the presence of a catalyst; or
by reacting keten, derived by the cracking of
ethanoic acid or propanone with ethanoic acid.
It reacts with compounds containing an $-\text{OH}$,
 $-\text{SH}$ or $-\text{NH}$ group to give acetyl (ethanoyl)
derivatives which are useful for characteriza-
tion. Largely used for the production of cellu-
lose ethanoate, also used for the manufacture
of vinyl ethanoate and aspirin. U.S. produc-
tion 1978 680 000 tonnes.

ethanol, ethyl alcohol, alcohol, spirits of wine,

$\text{CH}_3\text{CH}_2\text{OH}$. Colourless liquid with a pleas-
ant odour, b.p. 78.3°C . Miscible with water
with evolution of heat and contraction in
volume; pure ethanol absorbs water vapour.
Many gases are more soluble in it than in
water. Some inorganic salts and many organic
compounds are soluble in ethanol. It occurs
only rarely in nature, except as a result of the
fermentation of sugary plant juices by yeasts,
and less often by certain bacteria and moulds.
Alcohol was formerly manufactured almost
exclusively by the fermentation of materials
containing starch and sugars, but this method
is now relatively unimportant. Most is at pres-
ent made by the catalytic hydration of ethene,
or by the hydrolysis of the mono- and di-ethyl
sulphates formed by absorbing ethene in 90%
sulphuric acid. The ethene is obtained from
refinery gases or other petroleum fractions by
cracking. Because ethanol forms an azeotrope
with water it is not possible to obtain a product
containing more than 95.6% alcohol by
weight by straightforward fractionation of an

aqueous solution. For the manufacture of
100% ethanol azeotropic distillation* is
employed. Ethanol is oxidized to ethanal or
ethanoic acid; with nitric acid a variety of pro-
ducts, including glycollic and oxalic acids are
formed. Ethanolates (ethoxides) are formed by
the action of sodium, calcium, aluminium and
some other metals on ethanol. It reacts with
acids to give esters. With sulphuric acid it
yields ether, ethene or ethyl hydrogen sulphate.
Bleaching powder converts it to chloroform,
while chlorine gives chloral. Ethanol is used as
a starting point for the manufacture of other
chemicals, principally ethanal, in foodstuffs
and as a solvent. U.S. production synthetic
EtoH 1986 231 000 tonnes. Its pharmaco-
logical effects are basically those of a central
depressant, low doses having an apparently
stimulant effect due to the removal of normal
inhibitory influences.

ethanolamines The three ethanolamines are
low-melting, colourless solids which very
readily absorb water and form viscous liquids;
they have distinct ammoniacal odours and are
strong bases.

**Monoethanolamine, 2-aminoethyl alcohol, 2-
hydroxyethylamine,** $\text{HOCH}_2\text{CH}_2\text{NH}_2$. M.p.
 10.5°C , b.p. 171°C .

Diethanolamine, di-(2-hydroxyethyl)amine,
 $(\text{HOCH}_2\text{CH}_2)_2\text{NH}$. M.p. 28°C , b.p. $217^\circ\text{C}/$
150 mm.

Triethanolamine, tri-(2-hydroxyethyl)amine,
 $(\text{HOCH}_2\text{CH}_2)_3\text{N}$. M.p. 21°C , b.p. $277^\circ\text{C}/$
150 mm.

All these compounds are manufactured by
heating ethylene oxide under pressure with
concentrated aqueous ammonia. A mixture of
the three is obtained, the proportion of each
depending on the ammonia/ethylene oxide
ratio used, and this is separated by fractional
distillation.

The ethanolamines form soaps with fatty
acids which are almost neutral in reaction and
soluble in benzene. These are of great com-
mercial importance, being used as detergents,
emulsifying agents and in the preparation of
cosmetics, toiletries, bactericidal and herbi-
cidal products. Monoethanolamine is widely
used for removing acid constituents such as
carbon dioxide and hydrogen sulphide from
natural gas streams. These acid gases are then
removed by steam stripping. U.S. production
1986 248 000 tonnes.

ethanoylation See acetylation.

ethanoyl chloride, acetyl chloride, CH_3COCl .
Colourless liquid with a pungent odour; fumes
in moist air, producing ethanoic and hydro-

L The Avogadro constant $6.022 \times 10^{23} \text{ mol}^{-1}$

La Lanthanum.

labile complex A complex which participates in very fast reactions, particularly ligand exchange reactions, generally within the time of mixing. E.g. $[\text{Fe}(\text{H}_2\text{O})_6]^{3+}$, $[\text{Co}(\text{H}_2\text{O})_6]^{2+}$. Compare inert complex.

lability A measure of the ease of replacement of attached groups in complexes and molecules. Cr^{3+} , Co^{3+} complexes are inert, many other complexes are relatively labile.

lactalbunin A protein, belonging to the albumin class, present in milk. It has a mol.wt. of about 17 500, and is very similar in its properties to the albumin of the blood. It contains the essential amino-acid cystine, which is only present in traces in casein, the chief protein of milk.

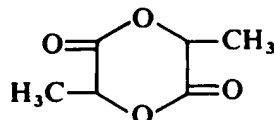
lactams Amino-acids when heated lose water to form lactams. The water is eliminated between the carboxyl group and the amino-group and a cyclic compound is formed. Also obtained by reduction of the imides of dicarboxylic acids or by isomerization of the oximes of cyclic ketones. Rings containing five, six and eight atoms can be obtained. The lactams are decomposed by heating with alkalis and the amino-acid is formed. They are colourless solids and are extremely poisonous. See caprolactam.

β -lactic acid 2-Hydroxy propionic acid.

lactic acids, 2-hydroxypropanoic acids, $\text{C}_3\text{H}_6\text{O}_3$, $\text{CH}_3\cdot\text{CHOH}\cdot\text{COOH}$. The acids are colourless syrupy liquids which readily absorb moisture, and are formed by the fermentation of sugars by the *lactobacilli* and some moulds. When slowly distilled they lose water and form lactide. L-Lactic acid, sarcocollactic acid, occurs in muscle, being formed by the breakdown of carbohydrate; m.p. $25\text{--}26^\circ\text{C}$. D-Lactic acid; m.p. 18°C , b.p. $122^\circ\text{C}/14\text{ mm}$. Lactic acid is manufactured by the fermentation of pure sugars or of various sugar-containing materials such as starch hydrolysates, and by the hydrolysis of lactonitrile formed by reacting ethanal with HCN. The major use is in the food and beverage industries, where it is used as an acidulant and for the manufacture of a

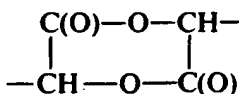
bread additive. It is also used as a chemical intermediate, in textile finishing and in leather tanning.

lactide, $\text{C}_6\text{H}_8\text{O}_4$. Colourless crystals. Prepared by the slow distillation of concentrated solutions of lactic acids. L-Lactide, m.p.



95°C , b.p. $150^\circ\text{C}/25\text{ mm}$. Prepared from L-lactic acid. It is partially converted to lactic acid by water. D-Lactide is similar. DL-Lactide crystallizes in colourless needles, m.p. $124\text{--}5^\circ\text{C}$, b.p. $142^\circ\text{C}/8\text{ mm}$. Obtained from DL-lactic acid.

lactides When α -hydroxy-fatty acids are heated they lose water and form lactides. These contain the group



and are formed by the interaction between two molecules of the hydroxy-acid by elimination of water. They are decomposed by heating with water to regenerate the original acid.

lactones Anhydrides formed by intramolecular elimination of water between the hydroxyl and carboxyl groups of hydroxy-acids. Since they are ring compounds containing carbon atoms, the ease with which they are formed depends upon the number of atoms in the ring to be formed. The commonest lactones are those of γ - and δ -hydroxyacids, since these have rings containing five and six atoms respectively. They are usually formed spontaneously in concentrated solutions of the acids, or by heating such solutions with small amounts of sulphuric acid. They are usually crystalline solids which are partially decomposed by water with regeneration of the hydroxy-acid.

lactose, $\text{C}_{12}\text{H}_{22}\text{O}_{11}$. Milk sugar, first discovered in 1615, occurs in the milk of all animals. Human milk contains 6%, cow's milk, 4%. It is manufactured by the evaporation of whey.

It is glucose-4- β -galactoside. Like glucose it gives rise to two series of isomeric derivatives

and is optically active. by the enzyme lactase.

laevorotatory See opti

laevulinic acid, levulinic oxopentanoic acid, $\text{C}_5\text{H}_8\text{O}_4$, $\text{CH}_3\text{COCH}_2\text{CH}_2\text{COOH}$ crystals; m.p. $33\text{--}35^\circ\text{C}$. Prepared by heating concentrated hydrochloric acid with valerolactone. Also reacts with cotton printing.

laevulose An old name

lake asphalts Natural bitumen with mineral

lakes Insoluble pigments precipitating natural and synthetic dyes (dyestuffs, dye-woods, etc.) on to suitable bases like Al^{3+} , Mg^{2+} , Zn^{2+} , Sn^{4+} compounds like tannic acid mordants in dyeing process.

lambda point, λ point transition between He_I and He_{II}

Lambert's law Layers of homogeneous material absorb radiation in proportion to the thickness of the layer and the intensity of the incident radiation.

$$I = I_0 e^{-Kx}$$

where I is the intensity of the transmitted radiation, I_0 that of the incident radiation, x the thickness of the layer and K a constant characteristic of the substance, known as the absorption coefficient; K also depends on the wavelength of light employed. When considered, it is clearly difficult to express this in a simple form to include the effect of absorbing molecules. It is embodied in Beer's law.

lamellar compounds compounds which form intercalation compounds

laminarin An extract from brown seaweed. It is a white powder $(\text{C}_6\text{H}_{10}\text{O}_5)_n$, consisting of pyranose units linked at 1 and 3; branch linkage at 6.

laminates See reinforcement

lamp black A soft carbon obtained by incomplete combustion of gas or petroleum (for use in lamp chimneys). A soft carbon used extensively in ink.

Landé g factor See g factor

langmuir An arbitrary